

2014–2015 **Midweek Concert** BALTIMORE
Teachers' Guides SYMPHONY
ORCHESTRA
in collaboration with

Remarkable Farkle McBride

Baltimore Symphony Orchestra
Ken Lam, conductor
Becky Mossing, narrator
Brandon Du, violin
Actors from Baltimore School for the Arts



*Creative and
Innovative Lesson
Seeds, Sprouts
and Resources*

STEAM
activated
Arts integrated

TINY TOTS • PreK-Kindergarten

PRIME TIME • Grades 1-3

Tuesday, April 28, 2015
10am & 11:30am

Thursday, April 30, 2015
10am & 11:30am

REMARKABLE FARKLE McBRIDE

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INTRODUCTION ●

Welcome to the Baltimore Symphony Orchestra's Teachers' Resource Guide!

We are delighted you will be joining us, along with educators and students from across the state of Maryland and beyond, for the BSO's **2014-15 Midweek Education Concerts**.

The Remarkable Farkle McBride Midweek Concerts are all about youth! We'll celebrate young composers, young performers, young audiences, the young Farkle McBride, and then the youth in all of us! With selections from Mozart's *Marriage of Figaro*, Lalo's *Symphonie Espagnol* performed by fifth grader Brandon Du, Rossini's *William Tell Overture*, Rimsky-Korsakov's *Flight of the Bumble Bee* and more, the audience will dazzle in the delights of youth at its best and learn about the instrument families along the way. Then we'll explore *Remarkable Farkle McBride*, a playful story of a young boy who learns to play a variety of instruments of the orchestra. The story, with its loveable yet boisterous character, is also an excellent opportunity to explore the instruments of the orchestra with your students. We also hope you find this charming story and music a fun way to explore science of sound through sound waves, acoustics and the physics of sound production, and in its book form, to dive into relevant language arts connections.

Inside this guide you will find unique classroom ideas (in the form of seeds and sprouts) and suggested classroom activities to help prepare your students for their upcoming concert visit. The guide was designed by a handpicked team of teachers from a range of counties across Maryland, with specialism in music and science. In order to strengthen the STEAM connections, this guide was also produced in consultation with **Michael Karweit**, a member of the **BSO Science Advisory team**, and recently retired Research Professor at Johns Hopkins University in the Dept. of Chemical and Biomolecular Engineering. Additionally we worked in close collaboration with Arts Education in Maryland Schools Alliance (AEMS), to ensure these resources meet a high standard for educators.

We hope you find the resources exciting, engaging, and invaluable as you plan your upcoming concert visit and we so look forward to seeing you at the Meyerhoff!



A handwritten signature in blue ink, which appears to read "Annemarie Guzy".

Annemarie Guzy
Director of Education
Baltimore Symphony Orchestra

CONCERT SUMMARY ●

Here's what's in store for your concert experience!

- Mozart: Overture to *Marriage of Figaro*
- Lalo: *Symphony espagnole*, 1st Movement
performed by Brandon Du, age 10



- *Instrument Family Demos:*

- Selections from Rossini: Overture to *William Tell*
- Selections from Saint-Saëns: "Fossils" from *Carnival of the Animals*
- Rimsky-Korsakov: "Flight of the Bumblebee" from *Tsar Sultan*



- Bill Elliot: *The Remarkable Farkle McBride*
performed by Actors from Baltimore School for the Arts
- Brahms: Hungarian Dance No. 5
- J. Strauss, Jr: *Ohne Sorgen*



HOW TO USE THIS GUIDE ●

Lesson Plan Seeds and Sprouts

Choose one or grow your own!



Seed

Inside this guide you will find four lesson “**seed**” suggestions. Think of the lesson seed as a topic. Each seed has an objective, essential questions, standards, and resources.



Sprout

Each seed has suggested “**sprouts**” or ideas that grow out of the seed. As you grow the sprouts, look to the resource list on each page. This list contains resources that are provided within this teachers’ guide, as well as a range of additional resources you may wish to use.



Grow your own! We hope one of our lesson ideas will spark a new idea for you and your students. **Encourage collaboration** with other teachers in your building, and create your own arts-integrated seeds & sprouts.

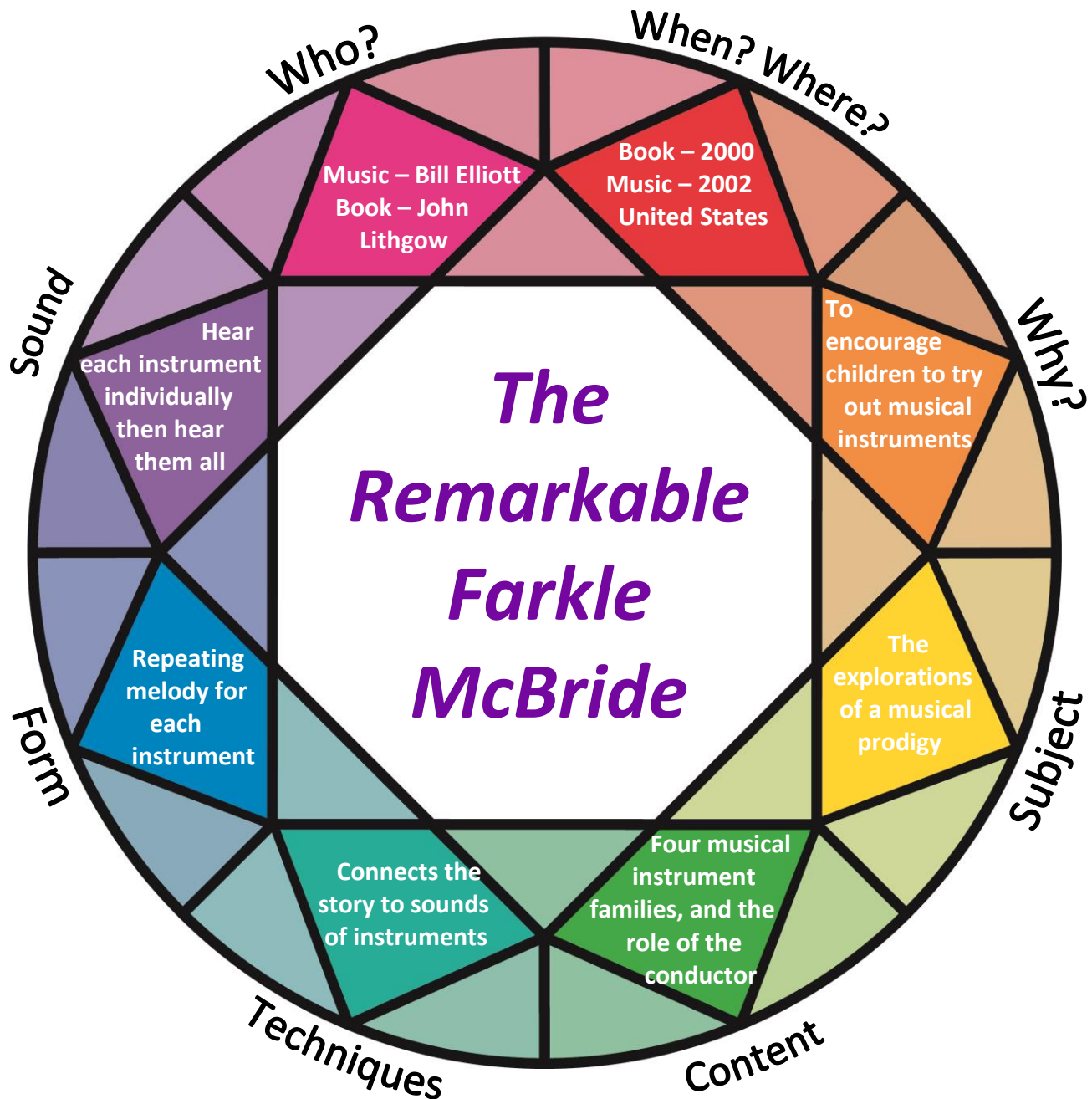
Don’t leave your concert experience behind at the Meyerhoff!

Use another sprout as a follow-up activity, use one of our suggested closure activities, or use our wrap-up worksheet.

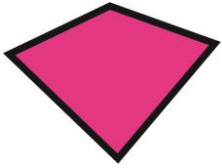
Tell us what you think by sharing your feedback and ideas with the BSO!



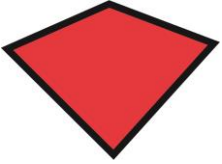
A SNAPSHOT OF *THE REMARKABLE FARKLE McBRIDE* • FACETS MODEL



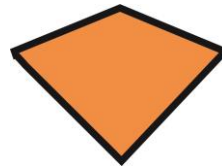
The Facets Model is adapted from Barrett, J. R., McCoy, C. W., & Veblen, K. K. (1997). *Sound ways of knowing: Music in the interdisciplinary curriculum*. New York, NY: Schirmer Books. Used with permission of the author.

A SNAPSHOT OF *THE REMARKABLE FARKLE McBRIDE* • IN DEPTH**Who created it?**

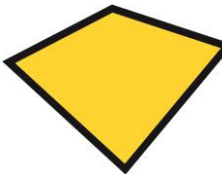
The book was written by John Lithgow and illustrated by C.F. Payne.
The music, based on the book, was composed by Bill Elliott.

**When and where was the work created?**

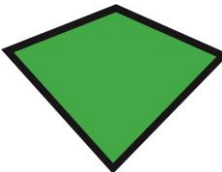
The book was written in 2000, and the music was composed in 2002. Both were created in the United States.

**Why was it created?**

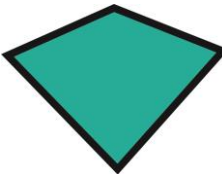
John Lithgow wrote this book to inspire children to explore instruments of the orchestra and then hear all the instruments together at a symphony concert. Two years later, Bill Elliott worked with John Lithgow to compose the music to match the story.

**Subject: What is the subject of the work?**

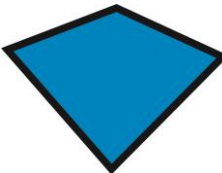
Farkle McBride is a musical prodigy who learns to play instruments from each of the four musical instrument families of the orchestra. Out of frustration, Farkle eventually gives up playing the instruments before he discovers his passion for conducting, and how much he loves the sound of all the instruments when they play together in an orchestra.

**Content: What is being expressed?**

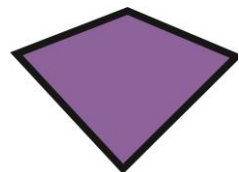
In this piece, students learn about instruments and their families in the symphony orchestra. Students also discover more about the role of a conductor and how the instruments come together to form a symphony orchestra.

**Techniques: What techniques did the composer use to help us understand what is being expressed?**

The music follows the storyline, and as Farkle explores each instrument students hear each instrument alone and can begin to appreciate tone, timbre and range. There are other story events (like crashes!) that are also described through the music.

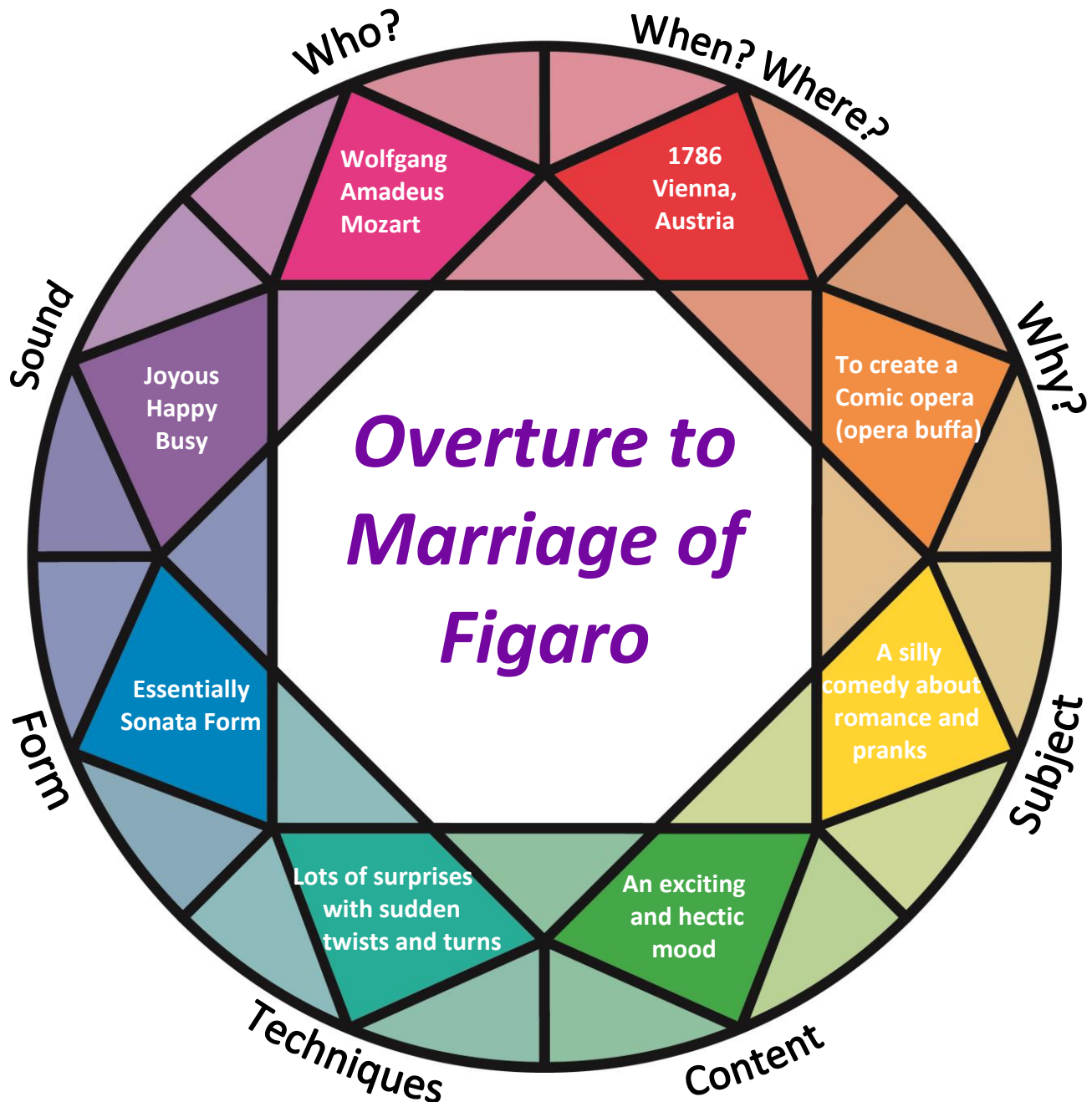
**Form: What is the structure or form of the work?**

As each instrument appears in the story, the melody returns.

**Sound: What does the piece sound like?**

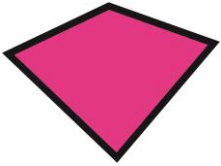
Through the course of the story, students hear a repeating melody played by a variety of instruments, and then the sound of the whole orchestra playing all together.

A SNAPSHOT OF THE OVERTURE TO MARRIAGE OF FIGARO • FACETS
MODEL

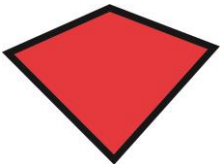


A SNAPSHOT OF THE *OVERTURE TO THE MARRIAGE OF FIGARO* ●

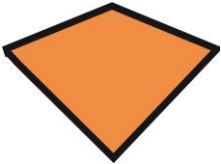
IN DEPTH

**Who created it?**

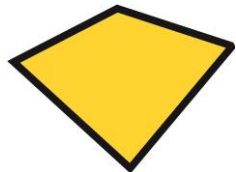
The composer was Wolfgang Amadeus Mozart.

**When and where was the work created?**

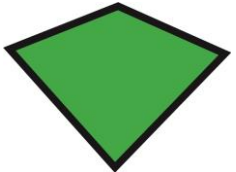
Mozart wrote the work in 1786 in Vienna, Austria at the age of 30.

**Why was it created?**

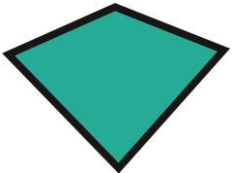
Count Orsini-Rosenburg, director of the Burgtheater, invited Mozart to write an opera buffa (comic opera).

**Subject: What is the subject of the work?**

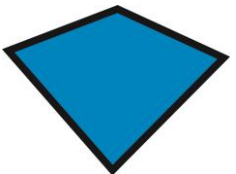
This comic opera is a silly story about romance and pranks.

**Content: What is being expressed?**

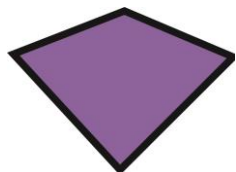
This overture is unique as it doesn't actually preview any thematic music from the opera itself. Instead, it conveys a hectic, boisterous and busy mood, using thematic material that only appears in the overture.

**Techniques: What techniques did the composer use to help us understand what is being expressed?**

This piece is full of sudden dynamic changes and twists and turns in the music to make it feel exciting and is very characteristic of Mozart.

**Form: What is the structure or form of the work?**

The form of the overture is essentially a sonata form.

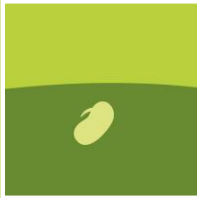
**Sound: What does the piece sound like?**

The overture sounds joyous, happy, excited and busy.

LESSON PLAN SEEDS • STEAM Activated –Arts Integrated



THE MUSIC: *THE REMARKABLE FARKLE McBRIDE*



SEED 1:
Welcome to the family:
All about instrument
families

ESSENTIAL QUESTIONS

- Can you name the four instrument families and what instruments belong to each family?
- What is unique about each instrument family in the orchestra?
- How do you make sounds on each type of instrument?

ACTIVITIES

1. Explore each instrument family: discuss how the instruments look, what they sound like, how a musician makes a sound, and where they sit in the orchestra. Which one is your favorite? Read and listen to *Remarkable Farkle McBride* and check out some of the online resources to help.
2. Play classroom instruments or make your own out of recycled materials! Can you put them into families too?
3. Write or act out a story about one of the instrument families. What kinds of personalities would you imagine each instrument to have?



Sprout 1: Discuss, describe and draw instruments of the **STRING** and **WOODWIND** families.

Sprout 2: Bring on the **BRASS**.

Sprout 3: Come and join the **PERCUSSION** Parade!

NATIONAL CORE ART STANDARDS

CREATING

Anchor #1: Generate and conceptualize artistic ideas and work.
Anchor #2: Organize and develop artistic ideas and work.
Anchor #3: Refine and complete artistic work.

RESPONDING

Anchor #7: Perceive and analyze artistic work.
Anchor #9: Apply criteria to evaluate artistic work.

CONNECTING -

Anchor #10: Synthesize and relate knowledge and personal experiences to make art.

NEXT GENERATION SCIENCE STANDARDS

- 1-PS4-1:** Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.
- 2-PS1-1:** Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.
- 2-PS1-2:** Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.

BSO RESOURCES

Remarkable Farkle McBride Listening Guide (p. 13)
Science of Sound (p. 23)
Seeing Sound (p. 25)
Sound Amplification (p. 26)
Making a Double Reed (p. 27)

ADDITIONAL RESOURCES

<http://www.philharmonia.co.uk/explore/instruments>
http://www.bbc.co.uk/northernireland/schools/4_11/music/mm/flash/orchestra_factfiles.swf
<http://www.nyphilkids.org/lockerroom/main.phtml>

LESSON PLAN SEEDS • STEAM Activated –Arts Integrated



THE MUSIC:

THE REMARKABLE FARKLE McBRIDE



SEED 2:
The earlier the
better: The life of a
child prodigy

ESSENTIAL QUESTIONS

- What is a prodigy?
- What are the advantages and disadvantages of being a prodigy? Why would you want to be one, or not be one?

ACTIVITIES

1. Read about the early life of Mozart and Beethoven, or other child prodigies (any genre) across history. Compare their lives with children's lives today.
2. Imagine what it would be like to be a child prodigy composer and use some of the online resources to try out composing.
3. Read the book and listen to the music from *The Remarkable Farkle McBride*. Discuss Farkle's skills and whether he liked being a prodigy. How would the book be different if he wasn't a prodigy?



Sprout 1: Explore prodigies (of all genres) throughout history.
Sprout 2: Imagine you're a prodigy. Now write a song!
Sprout 3: Farkle the prodigy

NATIONAL CORE ART STANDARDS

RESPONDING

Anchor #7: Perceive and analyze artistic work.
Anchor #9: Apply criteria to evaluate artistic work.

CONNECTING

Anchor #10: Synthesize and relate knowledge and personal experiences to make art.
Anchor #11: Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.

COMMON CORE STANDARDS

- RI.3.9:** Compare and contrast the most important points and key details presented in two texts on the same topic.
- RI.2.1:** Ask and answer such questions as *who*, *what*, *where*, *when*, *why*, and *how* to demonstrate understanding of key details in a text.
- RI.1.2:** Identify the main topic and retell key details of a text.
- SL.2.4:** Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.



BSO RESOURCES

BSO Teachers' Guide Digital CD
Farkle McBride Poem (p. 19)
Reading List from Enoch Pratt (p. 20)
Wolfgang Amadeus Mozart (p. 28)

ADDITIONAL RESOURCES

Winter, Jonah. *The 39 Apartments of Ludwig van Beethoven*
Barber, David, Donald, Dave and Burgess, Anthony. *Bach, Beethoven and the Boys - Tenth Anniversary Edition: Music History as it Ought to be Taught*
Composing Activities:
http://www.primaryresources.co.uk/music/early_bird_singers.swf
<http://www.lullatone.com/blog/wp-content/uploads/2009/04/raindrop.swf>
<http://interactivesites.weebly.com/virtual-instruments.html>
<http://interactivesites.weebly.com/composing.html>

LESSON PLAN SEEDS • STEAM Activated –Arts Integrated



THE MUSIC: *THE REMARKABLE FARKLE McBRIDE*



SEED 3:
Who is the person
waving their arms in
front of the orchestra?

ESSENTIAL QUESTIONS

- What is the role of the conductor in an orchestra?
- What's it like to be a conductor?
- What would happen if the conductor wasn't there?

ACTIVITIES

1. Learn more about the role of a conductor for an orchestra. How do they shape music? Learn beat patterns and how to convey loud and soft. Turn off the volume while watching a video of a conductor. Describe the emotion, tempo or mood of the piece from observing the conductor's movement and expression
2. Learn about famous conductors like Beethoven or the BSO's Marin Alsop. Find out what it's like to be a conductor.
3. Practice conducting! Have students take turns conducting a song (Ex. "John Jacob Jingleheimer Schmidt") while varying the dynamics and the tempo. Have students sit in a circle and a child (or two) in the middle plays with a beach ball to show tempo, meter or dynamics, while students in the outside circle respond with drums or other instruments.



Sprout 1: How does a conductor
shape music?

Sprout 2: Learn about famous
conductors.

Sprout 3: Be a conductor for a day!

ACTIVITIES CONTINUED

4. Conduct and observe: Listen to the same piece conducted by different conductors. How does it sound different? Use the program Audacity to record students performing under the direction of different conductors. Compare and contrast results.

NATIONAL CORE ART STANDARDS

CREATING

Anchor #1: Generate and conceptualize artistic ideas and work.
Anchor #2: Organize and develop artistic ideas and work.
Anchor #3: Refine and complete artistic work.

PERFORMING/PRESENTING/PRODUCING -

Anchor #4: Analyze, interpret and select artistic work for presentation. Anchor #5: Develop and refine artistic work for presentation
Anchor #6: Convey meaning through the presentation of artistic work.

RESPONDING

Anchor #9: Apply criteria to evaluate artistic work.

CONNECTING

Anchor #10: Synthesize and relate knowledge and personal experiences to make art.

BSO RESOURCES

BSO Teacher's Guide Digital CD
Listening Guide: Conducting (p. 17)
Reading List from the Enoch Pratt Library (p. 20)

ADDITIONAL RESOURCES

Learn about conductors:

<https://www.youtube.com/watch?v=RqSSwe9am1U>
<https://www.youtube.com/watch?v=eZB3GQFKWY4>
https://www.youtube.com/watch?v=KrILZgv_OoQ

LESSON PLAN SEEDS • STEAM Activated –Arts Integrated



THE MUSIC:

Mozart's Overture to Marriage of Figaro



SEED 4:
All about overtures and operas



Sprout 1: We're going to the opera.

Sprout 2: The Great Overtures

Sprout 3: Let's write an opera!

ESSENTIAL QUESTIONS

- What is an opera?
- What is an overture?

ACTIVITIES

1. Explore the opera. Discuss and learn about the form and how it's different from a symphony. How is it similar to other forms you might know? How is it similar to musicals or some Disney movies?
2. Find out about overtures. Learn about some really famous overtures like the *Overture to Marriage of Figaro*, *Leonore Overture* and *Overture to the Magic Flute*. Describe what you hear. Listen in particular to the mood the overtures convey.
3. Create your own opera. Work with the language arts teacher to write a libretto. Create an overture to set the scene, and perform it for other students!

NATIONAL CORE ART STANDARDS

CREATING

Anchor #1: Generate and conceptualize artistic ideas and work.
Anchor #2: Organize and develop artistic ideas and work.
Anchor #3: Refine and complete artistic work.

PERFORMING/PRESENTING/PRODUCING -

Anchor #4: Analyze, interpret and select artistic work for presentation.
Anchor #5: Develop and refine artistic work for presentation
Anchor #6: Convey meaning through the presentation of artistic work.

RESPONDING

Anchor #9: Apply criteria to evaluate artistic work.

CONNECTING

Anchor #10: Synthesize and relate knowledge and personal experiences to make art.

COMMON CORE STANDARDS

SL.2.4 - Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.

SL.1.2 - Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

RI.1.2 - Identify the main topic and retell key details of a text.



BSO RESOURCES

BSO Teacher's Guide Digital CD
Snapshot of the *Overture to Marriage of Figaro* (p. 7)
Wolfgang Amadeus Mozart Biography (p. 28)

LISTENING GUIDE • Remarkable Farkle McBride: Strings

Listen to Bill Elliott's *The Remarkable Farkle McBride* while following this listening guide. Use a pencil to connect the instruments as they are introduced in the music. Feel free to also use this guide as you listen to other music like Mozart's *Overture to Marriage of Figaro*.



VIOLIN



VIOLAS



CELLOS



STRING FAMILY



VIOLINS



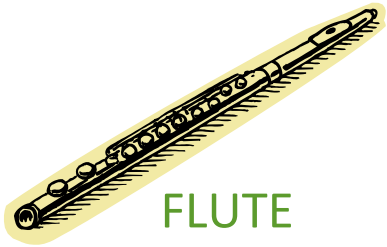
DOUBLE BASS



HARP



LISTENING GUIDE • Remarkable Farkle McBride: Woodwinds



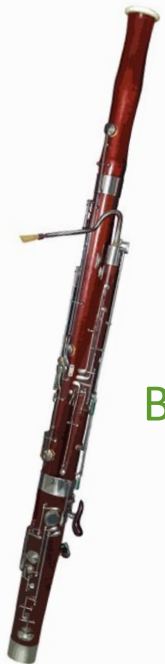
FLUTE



FLUTES



CLARINET



BASSOON



WOODWIND FAMILY



PICCOLO



OBOE



LISTENING GUIDE • Remarkable Farkle McBride: Brass



TROMBONE



TRUMPETS

TUBA



TROMBONES

BRASS FAMILY

FRENCH HORNS



LISTENING GUIDE • Remarkable Farkle McBride: Percussion



XYLOPHONE



BASS DRUM

SNARE DRUM



CYMBALS

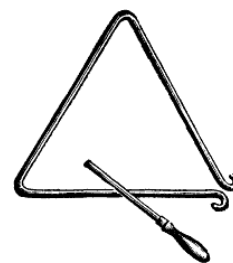


PERCUSSION FAMILY

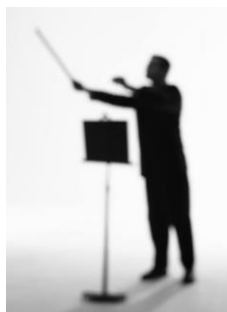
KETTLEDRUMS



TRIANGLE

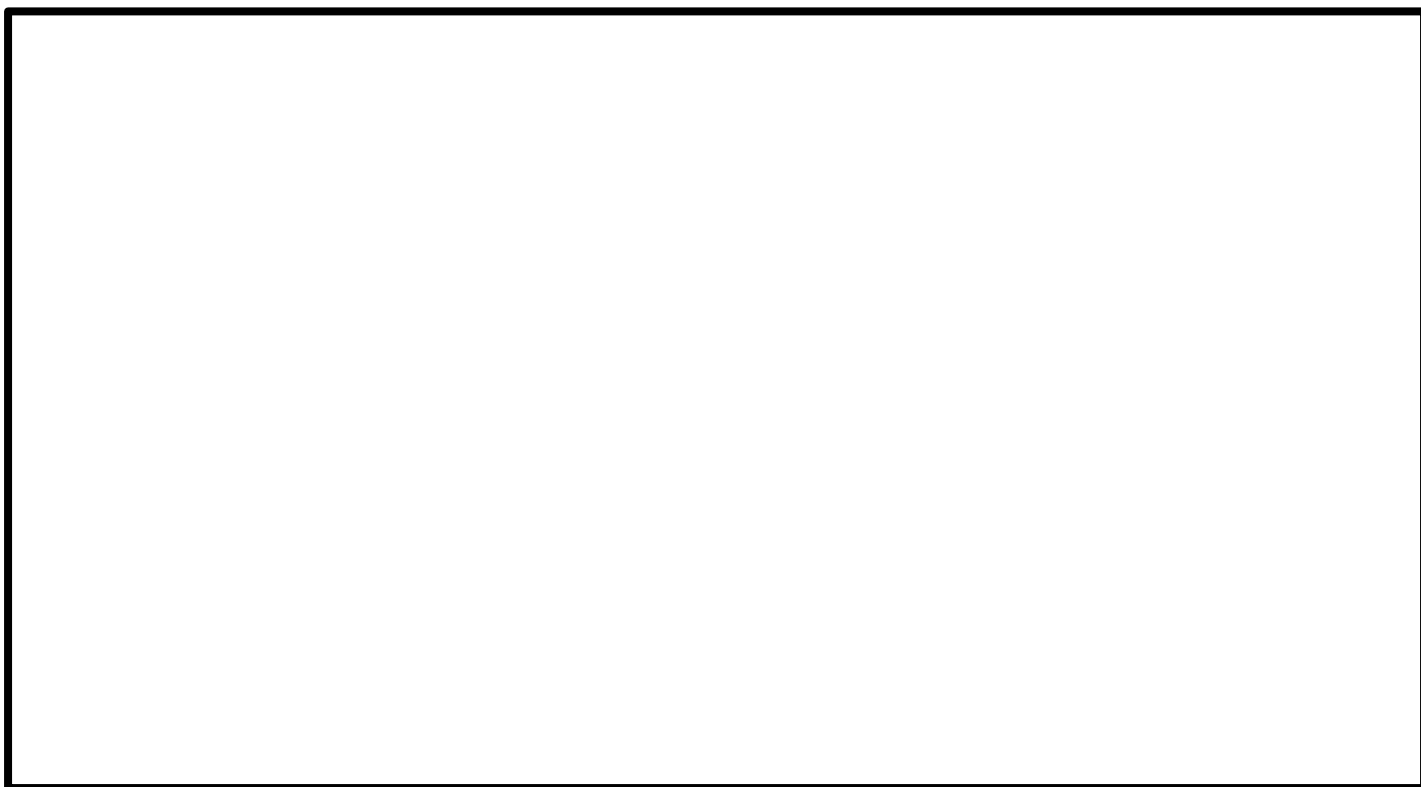


LISTENING GUIDE • Remarkable Farkle McBride: Conducting



Draw a picture of yourself as the CONDUCTOR of the orchestra. Don't forget to wave your baton!

MY ORCHESTRA



LISTENING GUIDE • Remarkable Farkle McBride: Compare and Contrast

Read the picture book *The Remarkable Farkle McBride* by John Lithgow without any music playing in the background.

1. In your mind, did you imagine hearing the different instruments? Y / N
2. Which instrument is your favorite and why? _____

Listen to a recording of “The Remarkable Farkle McBride” by Bill Elliott while following along with the book.

3. What differences did you notice when comparing the music to the book? _____
4. If you were to chose between being a musician in the orchestra or being the conductor of the orchestra, which would you choose and why?



LANGUAGE ARTS CONNECTION • Farkle McBride Poem

1. Read and listen to the poem within the music of *The Remarkable Farkle McBride*.
Note the poem is not in the picture book. The words of the poem are written below.
2. Listen closely to the last time the poem is sung. How did the poem change?
Listening example can be found at 4min. and 15sec. on the CD recording.

His father was thrilled, his mother elated,
And inside his head the boy sang unabated:

Play on! Play on! Play on, the voice cried.
Play on with persistence and passion and pride.
Play on from your heart and the rest will take part.
Play on, you remarkable Farkle McBride
Play on, you remarkable Farkle McBride.



LANGUAGE ARTS CONNECTION • READING LIST FROM ENOCH PRATT

Here are some suggested reading materials for both teachers and students, courtesy of Selma K. Levi of the Enoch Pratt Free Library Children's Department.

Mozart: scenes from the childhood of the great composer (Ages 7-9)

Brighton, Catherine. Doubleday; New York, 1990.

Brief descriptions of key moments in Mozart's early professional life are narrated by his sister and fellow performer, Nannerl. She communicates some of the tedium of being a child genius as well as the enjoyment. The detailed and well researched pictures give us a feel for the elegant objects, clothes and environments of the times and provide a helpful sense of the context in which Mozart wrote his music. A final page adds more details about both Mozart and Nannerl, whose first person narration brings immediacy to the story.

Arturo's Baton (Ages 4-8)

Hoff, Syd. Clarion: New York, 1995.

A famous conductor is convinced that he cannot work without his special baton. However, when the stick disappears, he learns it is his talent, not the baton, which is important. Neither didactic nor frivolous, Hoff's story of self-confidence is straightforward and the lighthearted treatment of a celebrity and the lyrical view of the music he makes will make it easy for teachers to go into more detail about what being a conductor entails.

The Philharmonic Gets Dressed (Ages 5-8)

Kuskin, Karla. HarperCollins Publishers, New York: 1982.

105 people all converge at the same time and place. They are members of a symphony orchestra and tonight they will be working and playing together. Humorous illustrations humanize and personalize all the musicians as they bathe, put on their underwear, primp and find their various ways to Philharmonic Hall; the conductor raises his baton and the music starts.

The Story of the Incredible Orchestra

(Ages 7-10) Koscielniak, Bruce. Houghton Mifflin Company: Boston, 2000.

Here is a fact-filled excursion through music history, ideal for children ages 7-10 years old. It traces the various eras in the development of the modern orchestra, starting with the instrumental groups at the dawn of the 17th century and continuing on up to the present day, with a look at synthesizers and computer sound modules. At the same time, the author explains the evolution of musical styles (Baroque, Romantic, Classical, etc.). He also clues in readers as to how various instruments have changed over the centuries. Such important historical figures as Bach, Haydn, Duke Ellington and violin craftsman Antonio Stradivari are also introduced. Close-up sketches show, for instance, a bassoon's double reed or how a piston valve works on a brass instrument. Notice on the endpapers you will find a great display of instruments, grouped by type and period.



LANGUAGE ARTS CONNECTION • READING LIST FROM ENOCH PRATT

Play, Mozart, Play! (Ages 4-7)

Sis, Peter. Greenwillow: New York, 2006.

Caldecott Honor award winner Sis chooses simple words and details that will most appeal to his audience. The cover shows the child Mozart playing the piano by turning handsprings on the keys, simultaneously playing music and playing. His father, who dominated his life, looms darkly over a tiny boy whose feet do not even touch the floor as he plays. Mozart's glorious musical day dreams of dancing instruments and animals will resonate with even the youngest child. On most pages, Mozart's shock of red hair and bright red vest give him visual weight and prominence. Biographical details on the final page help flesh out the story of the rest of his life.

Passing the Music Down (Ages 5-8)

Sullivan, Sarah. Candlewick Press: Somerville, Massachusetts, 2011.

Based on the true story of a young boy inspired and mentored by a man 75 years his senior, this meaningful tale will resonate even though the kind of music, folk, is not the focus of this curriculum. The older man teaches the boy about his fiddle, traditional folk music and the way he lives on his peaceful farm. They become so close the boy moves an hour away just to be able to spend more time with the man. As an example of a young musical prodigy, this crosses all boundaries.

The 39 Apartments of Ludwig van**Beethoven** (Ages 7-10)

Winter, Jonah. Schwartz & Wade books, New York: 2006.

This is a blend of fact with bits of quirky, amusing speculation. It starts with the composer's birth in 1770 and soon reveals that the adult Beethoven owned five legless pianos and moved in and out of 39 different apartments in and around Vienna. Tongue-in-cheek suggestions as to why he had to move include forgetting to pay rent, the hideous stinky smell from a nearby cheese shop, and noise complaints from other residents. Transferring the pianos is a constant headache for his movers, who always find the most roundabout and preposterously difficult way of transporting the instruments from place to place. These humorous theories are balanced by acknowledgement of the maestro's increasing deafness. An author's note separates fact from fiction.

Zin! Zin! Zin! A Violin (Ages 4-8)

Moss, Lloyd. Simon and Schuster Books for Young Readers: New York, 1995.

A perfect blend of illustration and verse, this Caldecott honor book gives voice to the unique sounds of 10 orchestral instruments. It progresses from one trombone solo, adding the names of musical groups along the way, up to a chamber group of ten. As the number of instruments increase so does the excitement, motion and sounds. The reader starts out facing the musicians but ends up behind them as they take their bow. This book is the perfect introduction to a concert hall.



LANGUAGE ARTS CONNECTION • READING LIST FROM ENOCH PRATT

The Orchestra (Ages 6-9)

Rubin, Mark. Firefly Books Ltd: Buffalo, New York, 1984.

Beginning with a discussion of music and its elements, this title then scrutinizes the instruments of the orchestra by categories: the strings, the brass and the woodwinds. A great deal of information is offered in a straightforward, well-organized manner.

Children's Book of Music (for teachers)

DK Publishing: New York, 2010.

This chronological look at music "from the first hum" to digital recording and electronic instruments combines concise summaries and eye-catching photography. The book explores the nature of music, its origins and varied sounds. It offers ample opportunity to compare jazz with classical music, for example. It covers description of the full orchestra and individual instrument families. While the information is succinct, there is enough depth for basic information and unusual facts, and the narrative branches out far beyond the same four to eight composers found in the usual introductions for this age group. Thirty-five musical highlights are included on the CD, each tagged by an icon and explanation within the book, provide teaching and listening aids.

Those Amazing Musical Instruments

(for teachers)

Helsby, Genevieve. Sourcebooks Jabberwocky: Naperville, Illinois, 2007.

Baltimore's own Marin Alsop is a guide for this accessible, well organized look at all of the musical instrument families including keyboards, the voice, and modern electronic instruments and, of course, conductors. Throughout, readers are prompted to listen to the accompanying CD-ROM, which features more than 100 musical samples. Information is clearly presented, and the author's enthusiasm for her subject is contagious. Although a bit too much for PreK-3rd Graders, this will be very useful to teachers.



STEM CONNECTION ACTIVITY • SCIENCE OF SOUND



THE SCIENCE: *THE REMARKABLE FARKLE McBRIDE*



PreK-First Grade Essential Questions: SOUND

- What is a sound?
- Where do sounds come from?
- How can sound change?
- Can you see sound?

PREK-FIRST GRADE ACTIVITIES

SOUND

- Create a semantic word map of sound words.
- Use your body to create a variety of sounds and discuss what you hear and why it sounded that way. Compare and contrast sounds with a partner.
- From a basket of varying instruments, play a guessing game to listen to the sound and name the instrument. Discuss how they chose their answer. Try playing the same game with a basket of classroom supplies (clicking pens, pencils, rulers, scissors, dice, counting chips, etc.), and observing how loud the sound is as compared to the force used to create it.
- Take a walk around the building and list the various environmental sounds that you heard. Talk about how you identified the sounds by the tone quality, and observe/guess what caused these sounds.
- Fill a clear bowl (a large surface area) with water. Strike a triangle or tuning fork and touch the top of the water to see the vibrations.



NEXT GENERATION SCIENCE STANDARDS

- K-PS2-1:** Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.
- 3-PS2-2:** Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.
- K-2-ETS1-2:** Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
- K-2-ETS1-3:** Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

STEM CONNECTION ACTIVITY • SCIENCE OF SOUND



THE SCIENCE: *THE REMARKABLE FARKLE McBRIDE*



Grades 2-3 Essential Questions: SOUND

- What do you need to create a sound?
- What is a vibration?
- What objects vibrate?
- How could you send a sound over a long distance?
- What ways can you amplify a sound without turning up the volume?
- What does sound look like?
- Are there ways to see sound waves ?
- How would you describe an emergency sound?
- Why do we need to have emergency sounds?

GRADES 2-3 ACTIVITIES SOUND

- Use your voice to hum while you put your hand on your neck to feel the vibration of your vocal cords.
- Use jump ropes to show sound waves. Create ways to change the waves (long, short, fast, slow).
- Use echolocation (how dolphins and bats communicate) by using two paper towel holders and an aluminum pie plate to redirect sound off the plate to a partner.
- Hold a ruler halfway off the edge of the desk and flick the end to see the vibration of the ruler. Try holding the ruler in different spots or with new materials to hear the different sounds it creates and see the vibration.
- Invite students from fifth grade band to come in and play a mystery instrument game. Guess the instrument by the sound and discuss where the vibration occurs in order for the instrument to produce a sound.
- Send a long-distance message. Work in a small group to find a way to send a message from one side of the hallway to the other.



NEXT GENERATION SCIENCE STANDARDS

- 1-PS4-1:** Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.
- 1-PS4-4:** Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.
- K-2-ETS1-2:** Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
- K-2-ETS1-3:** Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

STEM CONNECTION ACTIVITY • SEEING SOUND



THE SCIENCE: *THE REMARKABLE FARKLE McBRIDE*

Purpose

This activity is designed to help students understand that vibrations are responsible for the sounds we hear. Students will be able to visualize the vibrations that occur while they experiment with a percussion instrument.

Materials

- Large drum (purchased or hand-made)
- Rice, dried beans, small pasta (uncooked)
- CD player
- CDs with songs containing various voices (high/low pitch, loud/quiet dynamics)

Process

- Put a few grains of rice on the drumhead and gently tap the drum with a drumstick. The vibration will cause the rice to bounce.
- Speak loudly right next to the drum. Vibrations will travel from your mouth, through the air and through the drumhead, once again causing the rice grains to bounce.
- Experiment with other materials besides rice.
- Try hitting the drum with the drumsticks using different amounts of force. Observe how the different forces change the bounces.
- Take turns using different voices to manipulate the vibrations (low voices vs. high voices). Have a recording of opera singers (especially a low bass singer) to see the reaction of the rice.
- Place a CD player next to the drumhead to experiment with different songs or sound effects to make the rice produce a steady beat.
- Have the students make predictions of what the rice would do when presented with different sounds.

NEXT GENERATION SCIENCE STANDARD

1-PS4-1: Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.



STEM CONNECTION ACTIVITY • SOUND AMPLIFICATION



THE SCIENCE:

THE REMARKABLE FARKLE McBRIDE

Purpose

This activity will use what students have learned about sound to design to help them build devices that can communicate over a distance. Students will visit multiple stations to explore amplification.

Materials

- Balloons of various sizes (no latex) – blown up ahead of time and numbered with a sharpie
- Paper towel rolls
- Toilet paper rolls
- Tube containers of various sizes (pringles cans, oatmeal can)
- Mp3 player/iPod
- Ear buds
- Aluminum pie plate

NEXT GENERATION STANDARDS

1-PS4-4: Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.



Process

Split the students into small groups. Groups travel around to each station.

STATION 1 - Balloons

- One student whispers a short sentence to the group as quietly as they can.
- The same student tests each balloon by whispering the same message on one side of the balloon.
- The group determines which balloon made it easiest to hear the whispered message. Explain why that balloon worked best to amplify the sound.

STATION 2 - Telephones

- Play the Telephone Game using paper towel and toilet paper rolls to whisper messages throughout the group.
- Switch rolls and play again. Discuss which roll works best and why.

STATION 3 - Speaker

- Play music on a small mp3 player/iPod with ear buds plugged in.
- Place the ear buds in various tube containers to experiment with the different levels of amplification.
- Discuss which material made the loudest sound.

STATION 4 – Around the Corner

- Use two paper towel rolls and one aluminum pie plate to design a device that will allow you to talk to your group from around a corner (hallway corner, tall filing cabinets).

STEM CONNECTION ACTIVITY • MAKING A DOUBLE REED



THE SCIENCE: *THE REMARKABLE FARKLE McBRIDE*

Purpose

This activity is designed for students to create a double reed using a plastic straw in order to explore sounds of woodwind instruments.

Materials

- Plastic straws – 1 per student
- Scissors

Process

- Pinch the tip of a plastic straw (a finger-width/1cm).
- Cut the tip of the straw to make an arrow shape.
- Press lips together with the tip of the straw in your lips.
- Buzz your lips to make the sound of a double reed.
- Using what the students already know about vibration, discuss how the sound was made.
- Brainstorm and discuss ways to manipulate the sound.
- Discuss how to change the pitch. Teacher can cut the straw while a student is playing to change to a higher pitch.

NEXT GENERATION STANDARDS

K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.



TEACHER RESOURCE • WOLFGANG AMADEUS MOZART



Wolfgang Amadeus Mozart was born in 1756 in the city of Salzburg, Austria. During the early years of his life, Mozart quickly established himself as a musical prodigy. By the age of three, Mozart was playing the piano, harpsichord and violin, and at four years old he was writing his own music. As Mozart grew older and his fame and musical ability continued to grow, he quickly captivated the attention of the Classical music world. Mozart wrote hundreds of works, including sonatas, symphonies, masses, concertos and operas and was well known for his emotional, dramatic style.

Mozart showed great musical ability at a young age. By mimicking the piano playing of his older sister, Maria Anna, he showed his uncanny understanding of musical elements such as tone, chords and tempo. Mozart's father, Leopold (a successful composer and violinist), recognized his son's great talent and began taking him and Maria Anna on tours around Europe. Although many of Mozart's performances were for the rich and royalty, the public enjoyed hearing his musical versatility as well. Audiences loved Mozart's blonde curls, shrill voice and polite ways. As a teenager, Mozart mastered the piano and began to also demonstrate great skill in composition. He started by writing operas in Italy, then symphonies and then violin and piano concertos, many of which are still performed today.

Mozart settled in Vienna and continued to compose, perform and teach in order to make ends meet. However, due to financial troubles, Mozart's life became full of challenges. He became seriously ill, but refused to stop composing music. One day, Mozart was found unconscious at

his desk. Since he realized that he was likely dying, he gave one of his students precise details about how his last work, *Requiem*, was to be completed. He died in 1791 at age 35, and was buried in an unmarked grave. At the time of his death, Mozart was considered to be one of Classical music's greatest composers, and his musical style and legacy still remains influential today.



TEACHER RESOURCE • WOLFGANG AMADEUS MOZART



Use the questions below as suggestions for discussion.

1. How old was Mozart when he began playing the piano? _____
2. What age was Mozart when he began composing? _____
3. What other instruments could Mozart play? _____
4. Who took Mozart and his sister on a musical tour of Europe?

5. Where did Mozart compose his first opera?

6. What was the name of Mozart's last musical work? _____



PRE CONCERT RESOURCE • YOUR VISIT TO THE MEYERHOFF

Your visit to the
Meyerhoff

Baltimore Symphony Orchestra

Your Visit to the Meyerhoff

A virtual guide to the Joseph Meyerhoff Symphony Hall
and your BSO Midweek concert

<http://www.bsomusic.org/media/348294/Your-visit-to-the-Meyerhoff.ppt>



POST CONCERT RESOURCE • FIELDTRIP REVIEW

Name _____ Class _____



1. What concert did you see at the Joseph Meyerhoff Symphony Hall?

2. What was your favorite part of the concert?

Draw a picture of something fun that you remember from the concert.
You may want to ask your teacher for a bigger piece of paper.

ADDITIONAL RESOURCES • Books & Music

Books for Reference

- Barber, David, Donald, Dave and Burgess, Anthony. *Bach, Beethoven and the Boys - Tenth Anniversary Edition: Music History as it Ought to be Taught*. 1996
- Helsby, Genevieve. *Those Amazing Musical Instruments: Your Guide to the Orchestra through Sounds and Stories*. Naxos Books: 2007.
- Levine, Robert and Hamilton, Meredith. *Story of the Orchestra: Listen While You Learn about the Instruments, the Music and the Composers who Wrote the Music*. Black Dog & Leventhal: 2000.
- Lithgow, John. *The Remarkable Farkle McBride*. Simon and Schuster: 2003.
- McDonough, Yona and Robbins, Carrie. *Who Was Wolfgang Amadeus Mozart?* Grosset and Dunlop: 2003.
- Perlmutter, Richard. *Beethoven's Wig*. Rounder: 2005.
- Wade-Matthews, Max and Thompson, Wendy. *The Encyclopedia of Music: Musical Instruments and the Art of Music-Making*.
- Winter, Jonah. *The 39 Apartments of Ludwig van Beethoven*. Random House LLC: 2014.

Music Resources

- About Bill Elliott, composer of *Remarkable Farkle McBride*: <http://www.swingorchestra.com/band.html>
- CD - *Farkle and Friends with Bill Elliott and his Orchestra*. Kid Rhino: 2002.
- Composing websites for kids:
 - <http://interactivesites.weebly.com/composing.html>
 - http://www.primaryresources.co.uk/music/early_bird_singers.swf
 - <http://www.lullatone.com/blog/wp-content/uploads/2009/04/raindrop.swf>
 - Audacity - <http://audacity.sourceforge.net/>
- Conduct Beethoven's 2nd Symphony, 4th movement with dynamic and tempo changes: <https://www.youtube.com/watch?v=uclnNjTmy2g>
- Instrumentalist Interview - <http://www.philharmonia.co.uk/explore/instruments/violin>
- Link to *Beethoven's Wig* website with more resources and books: <http://beethovenswig.com/>
- Online Resource Guide from the New Haven Symphony: <http://www.newhavensymphony.org/uploads/File/2014%20NHSO%20YPC%20Curriculum.pdf>
- Orchestra websites for kids:
 - <http://www.philharmonia.co.uk/explore/instruments/>
 - <http://www.nyphilkids.org/lab/main.phtml>
 - http://www.bbc.co.uk/northernireland/schools/4_11/music/mm/flash/orchestra_factfiles.swf
- The role of the conductor from Leonard Bernstein's *Young Person's Concerts*: https://www.youtube.com/watch?v=KrlLZgv_0oQ
- John Lithgow narrates his picture book: <http://vimeo.com/44690670>
 - Benjamin Britten's *Young Person's Guide to the Orchestra* Performance: <https://www.youtube.com/watch?v=yfFFqxnQBul>
 - Musical Game: <http://listeningadventures.carnegiehall.org/ypgto/index.aspx>



ADDITIONAL RESOURCES • Science of Sound

Science of Sound Resources

- Investigating how sound travels through different solids: http://homepage.eircom.net/~kogrange/sound_experiments.html
- Making music with water: <http://www.sciencekids.co.nz/experiments/makemusic.html>
- Using a balloon to amplify sound: <http://www.sciencekids.co.nz/experiments/balloonspeakers.html>
- Sound experiments: <http://www.acousticsblog.com/2013/back-to-school-sound-experiments-for-kids/>
- Testing the best conductor of sound and making a whistle: http://www.experiland.com/html/browse/ph_acoustics_1.htm
- Building your own tonoscope: http://www.soundingoutaeolus.com/Sounding_Out_Aeolus/Acoustic_Tonoscope_files/How-to-%20build-a-Tonoscope.jpg
- How sound is made: <http://kidsactivitiesblog.com/14753/teaching-kids-how-sound-is-made>
- Making a pan flute, straw flute, and balloons to escape air: <http://www.playfultunes.com/music-in-a-nutshell.html>
- Video to make a straw pan flute: <https://www.youtube.com/watch?v=BaymX3qJRbQ>
- How to make a pan flute with straws: <http://www.msichicago.org/online-science/activities/activity-detail/activities/make-music-with-straws/>
- Sound waves: <http://www.brighthubeducation.com/preschool-lesson-plans/106864-sound-and-vibration-science-activities-for-preschoolers/>
- Making instruments: <http://www.prekinders.com/sounds/>
- Sound games & experiments: <http://www.childrensmuseum.org/cmnh2010/uploadedFiles/About/SoundActivitiesForEarlyLearners.pdf>
- How to make a straw flute: <http://www.instructables.com/id/how-to-make-a-straw-instrument-straw-flute/>
- Video about straw flutes and changing lengths to make different pitches: <https://www.youtube.com/watch?v=wXjk2jCOhEk>
- Making sound using nails (like a xylophone): <http://www.smm.org/sound/nocss/activity/ssl3.htm>
- Making sound with a ruler and a heavy book: <http://www.smm.org/sound/nocss/activity/ssl4.htm>
- Making a slide instrument or reed instrument: <http://www.smm.org/sound/nocss/activity/ssl7.htm>
- Making a model eardrum to see how it is affected by sound: <http://www.smm.org/sound/nocss/activity/ssl8.htm>
- Slinky sound waves: <http://www.smm.org/sound/nocss/activity/2b.htm>
- Making sound with string: <http://www.smm.org/sound/nocss/activity/ssl9.htm>
- Making sound with hangers and string: <http://www.smm.org/sound/nocss/activity/2a.htm>
- Model of vocal cords: <http://www.smm.org/sound/nocss/activity/ssl14.htm>
- Using a balloon to amplify whispering sounds: <http://www.smm.org/sound/nocss/activity/3b.htm>



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